

ABSTRACT

The present invention generally relates to industrial automation, and in particular to systems and methods that facilitate rendering data in an industrial automation environment. Specifically, the invention gathers data *via* a high-speed data collection device and transmits high-resolution data to a trend server. A trend server can batch or buffer the high-resolution data for transmission to a user interface, such as a Human Machine Interface. A run-time reduction modulo m (RTR^m) component can index data to permit a reduction in data read time. A user interface can render the data at high resolution to provide the user with a real-time, seamless display of information.